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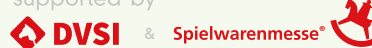
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07-08 Sept 2021 Nuremberg, Germany



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Dear Attendee,

On behalf of the organizing committee we'd like to welcome you to Nuremberg. We are convinced that the 2nd **bio!TOY** conference on sustainable plastics for toy and leisure applications will provide you with the most up-to-date information you need to evaluate the possibilities and challenges of changing from petroleum based plastics to plastics from renewable carbon.

In order to help us improve future events of this kind, we kindly ask you to complete the evaluation form that you will find in your conference kit or in form of an online survey after the event. Please return it to the registration desk or leave it on your table after the conference.

Conference books are often thick, heavy and difficult to transport. For this reason and for improved sustainability we did not print all presentations in the book, but rather just abstracts on individual pages where you can add your personal notes. And we did not prepare CDs or USB-Sticks.

However, all presentations and further information will be made available for download to the delegates and speakers. Approximately two weeks after the conference we will send you by e-mail a link to download the latest versions of all presentations as they were presented during the conference (as far as approved by the speakers).

On Wednesday, Sept. 7th bioplastics MAGAZINE, the first and only international magazine dedicated to bioplastics and Harald Kaeb (narocon) are proud to invite you to a dinner. More details will be announced during the event.

If you would like to know more about Polymedia Publisher and bioplastics MAGAZINE or narocn don't hesitate to contact us. Feel free to take one or more sample copies of the magazine from our displays.

We're happy to meet you and we are looking forward to a hopefully fruitful conference for all of us.

Yours sincerely

A handwritten signature in black ink, reading 'Michael Thielen'.

Michael Thielen
Publisher and Editor

A handwritten signature in black ink, reading 'H. Kaeb'.

Harald Kaeb
narocon

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Table of contents

05 General Information

07 Organizational Team

08 Programme

12 Speaker's Biographies and
Abstract Pages for your Personal Notes



General Information

Here we answer some of the frequently asked questions

and provide useful information for the meeting

Name Badges

Please be so kind to always wear your badge to make it easier for everyone to start networking. The badge shows your name and company name.

Venue

The Meeting room is called Noris 1-6.

Evaluation Forms

In order to help us improve future events of this kind, we kindly ask you to complete the evaluation form that you find in your material. Please return it to the registration desk or leave it on your table after the meeting. For online-attendees we'll provide an online survey after the event.

Delegate Lists

A list of all delegates, speakers, journalists and staff is part of your material. Please note that this list is for your personal use only. Should you want to get in touch with one of the attendees after the conference, we suggest to use the Whova app and platform.

Refreshments, Coffee/Tea

Each refreshment break will be in the Foyer just outside the meeting room.

Programme

The programme, with full conference timings, is available in this conference book as well as in the Whova app / platform.

The chairperson will advise on any changes to the published timings.

Questions

We encourage delegates to ask questions throughout the conference and recommend you prepare possible questions to ask each speaker. The question will be answered after each presentation.

We distribute small cards for questions that will be collected after each presentation. The chairperson will read the questions to the speakers. But you can also raise your hand during each Questions and Answer session and ask questions yourself. Please wait until a microphone is handed to you and state your name and company before you ask your question. Online attendees should use the Q&A function.

Smoking

The Arvena Park Hotel is designated a non-smoking facility, we do ask delegates to respect this. If you would like to smoke, you must leave the building.

Messages

Any messages taken throughout the conference will be forwarded to you at the earliest opportunity. Please have a look at the flipchart once in a while and look in the announcements function on the Whova app / platform.

Recording

We will record the presentations and offer these in form of a "video-on-demand" for a full week after the event, in order to accommodate for different time zones of the online attendees. Other attendees are only allowed to make recordings with the permission of the Organizers. Should you want to object to any publication of a photograph or videoclip where you are visible, please tell this to our staff. If you do not object, we assume your consent for publication.

Mobile Phones / Smartphones

Please make sure that all mobile phones are turned off or set to "mute mode" during the conference sessions. This is a minimum of politeness and respect to all speakers and other delegates.

Valuables/Security

Polymedia Publisher or narocon and the Arvena Park Hotel cannot take responsibility for any valuables, personal luggage or notes left in the meeting room or registration area. Please do not leave any possessions/baggage unattended at any time, we recommend to contact the hotel staff (Hotel Reception).

Free Wifi

Free Wifi is available throughout the hotel. No username or password required. As the total bandwidth is limited, please use max. one device per person.

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Polymedia Publisher or narocon will not enter into any discussion, activity or conduct that may infringe, on its part or on the part of its participants any applicable competition law. By way of example, participants shall not discuss, communicate or exchange any commercially sensitive information, including non-public information relating to prices, marketing and advertising strategy, costs and revenues, trading terms and conditions with third parties, including purchasing strategy, terms of supply, trade programmes or distribution strategy. This applies not only to discussions in formal meetings but also to informal discussions before, during and after meetings.

Presentation-Download and CD

All approved presentations of the 2nd bio!TOY conference will be available for download about two weeks after the event.

All approved presentations of the 2nd bio!TOY conference will be available for download about two weeks after the event.

We will send you a download link and password by e-mail.

A CD with the presentations will also be available by then.

Delegates of the conference can order this CD for a discounted price of EUR 99.00 (regular EUR 149.00).

This will also be announced in the above mentioned e-mail.



Conference Team

Your conference team will try to help you in everything you need.



Dr. Michael Thielen
Head of Conference Team
Publisher and Editor of
bioplastics MAGAZINE



Harald Kaeb
Co-Organazier
narocon



Kerstin Neumeister
Conference Team
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bioplastics MAGAZINE



Alex Thielen
Conference Team
and Editor of
bioplastics MAGAZINE



Samuel Brangenberg
Conference Team and
reporter for
bioplastics MAGAZINE

Programme

Tuesday, 07 Sep 2021



07:30-08:45		Registration, Welcome-Coffee
08:45-09:00	Michael Thielen, Bioplastics Magazine	Welcome & Introduction
09:00-09:10	Ulrich Brobeil, DVSI	Welcome remarks
09:10-09:20	Christian Ulrich, Spielwarenmesse	Welcome remarks
09:20-09:45	Christopher vom Berg, nova Institute	Renewable Carbon Concept for toys: #Biobased #Recycled #CO ₂ -based
09:45-10:10	Jörg Rothermel, VCI	Climate-neutral chemistry and plastics: Study for Germany
10:10-10:35	Gabriele Peterek, Fachagentur Nachwachsende Rohstoffe FNR	Bio-based toys - a playful introduction to the bioeconomy
10:35-10:50	Q&A	
10:50-11:20	Coffeebreak	
11:20-11:45	Patrick Zimmermann, FKUR	Sustainability and toys - a logical step or a contradiction?
11:45-12:10	Rafaela Hartenstein & Ben Kuchler, Hasbro	Hasbro's Sustainability Journey: More than Toys
12:10-12:35	Suny Martínez, AIJU	TOY GREEN DEAL: A bio-path towards a sustainable model
12:35-12:50	Q&A	
12:50-14:00	Lunch	
14:00-14:25	François de Bie, Total-Corbion	Luminy PLA and the breakthrough in higher heat, durable applications
14:25-14:50	Thomas Roulin, Lignin Industries	Lignin-based thermoplastic materials for ABS products
14:50-15:15	Eike Jahnke, INEOS Styrolution	Styrenics Solutions for Toys - biobased & recycled
15:15-15:40	Rafael Rivas, Miniland	Small Initiatives with big impact, an example of European Sustainable management
15:40-16:05	Q&A	
16:05-16:35	Coffeebreak	
16:35-17:00	Jason Kroskrity, Mattel	Mattel's vision and portfolio of sustainable toys
17:00-17:25	Elisabet Sjölund, Neste	Neste's renewable and circular approach: Keeping plastics in play sustainably
17:25-17:35	Q&A	
18:00-21:00	Dinner & Social Evening	

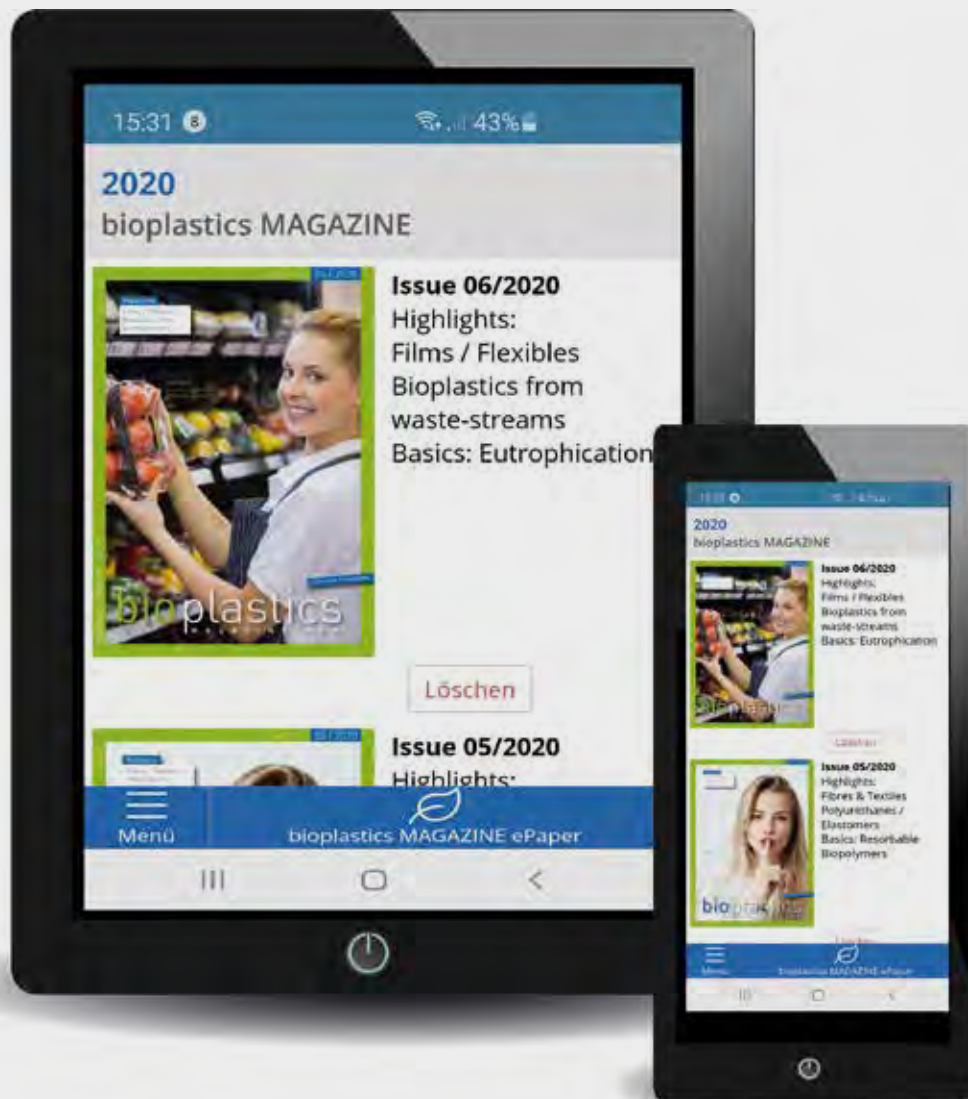
Wednesday, 08 Sep 2021



08:45-09:00	Michael Thielen	Welcome remarks
09:00-09:25	René Mikkelsen, Lego	The LEGO Group's vision and achievements for sustainable toys
09:25-09:50	Pascal Lakeman, Trinseo	A material suitable for toy manufacturing based on direct bio-based and recycled content
09:50-10:15	Sharon Keilthy, Jiminy Eco Toys	A plastic-free toystore is possible...what will it look like in 10 years' time?
10:15-10:40	Michael Schweizer, Tecnar	Raw material shift in the plastics industry – Children's toys made from tailor-made blends
10:40-10:55	Q&A	
10:55-11:20	Coffeebreak	
11:20-11:45	Marck Højbjerg Matthiasen, Dantoy	dantoy – Delivering bio-based toys for children in a first-mover initiative
11:45-12:10	Marko Manu, Arctic Biomaterials	Biobased material alternatives for Toys
12:10-12:35	Herbert Morgenstern, BASF	New Plasticizers based on alternative raw materials
12:35-12:50	Q&A	
12:50-14:00	Lunch	
14:00-14:25	Caroline Kjellme, Viking Toys	Toys from sustainable materials
14:25-14:50	Ruud Rouleaux, Helian ColorFabb	PHA materials design and application development for IM and AM
14:50-15:15	Keiko Matsumoto, Miyama	PLA faux fur for plush toys
15:15-15:40	Beatrice Radaelli, eKoala	The (im)possibilities of bioplastic in the world of baby products
15:40-15:55	Q&A	
15:55-16:00	Harald Kaeb / Michael Thielen	Summary Conclusions Farewell

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*: (may become a paid service after 2021)



Speakers Biographies



Abstracts
for your
personal notes



Tuesday, 07 Sep 2021 | 09:00-09:10

Welcome remarks

Ulrich Brobeil, DVSI



Biography

The lawyer Ulrich Brobeil (53) worked as a partner in a law firm and in a medium-sized company in the sporting goods industry, is married with two children. Since July 2005 he has completely committed to toys and the German Toy Maker Association (DVSI), meanwhile acting as the managing director.

Abstract

The DVSI is a member- and engagement association, in which apart from professional services for the single member the interest representation of the whole German toy branch and the members exchange are strategically centered. In his presentation Ulrich Brobeil, the toy expert and managing director of the supporting German Toy Maker Association (DVSI) will welcome the conference participants and illuminate the political situation around the EU Plastics Strategy, where the toy sector has not been singled-out as a priority for further actions, but some of the actions can have an impact on the sector. The DVSI wants to match the biobased plastics industry and the toy industry and already has the next step in mind – the founding of a DVSI working group „Sustainable Materials“ with experts from the toy industry, federal authorities, test labs, etc..



Tuesday, 07 Sep 2021 | 09:10-09:20

Welcome remarks

Christian Ulrich, Spielwarenmesse



Biography

Christian Ulrich is Spokesperson of the Executive Board at Spielwarenmesse eG. He is responsible for marketing, corporate communication as well as press and public relations. He also oversees the development of new business opportunities. The Business Administration graduate launched his career as a Consultant for the agency group Serviceplan. This was followed by positions as Advertising Manager and finally as Head of International Marketing at Fischer Group. He joined Spielwarenmesse eG in 2007 as Director Marketing and was in charge of brand management, global marketing for all trade fairs and events, and the creation of the special shows. In addition, Christian Ulrich is Managing Director of the agency "Die roten Reiter", a subsidiary of Spielwarenmesse eG.

Abstract

Christian Ulrich, Spokesperson of the Executive Board at Spielwarenmesse eG, regrets that he cannot take part in the bio!TOY Conference in person. In his welcoming address, he considers the topic of sustainability and the diverse ways it will be reflected at the Spielwarenmesse.



Tuesday, 07 Sep 2021 | 09:20-09:45

Renewable Carbon Concept for toys:
#Biobased #Recycled #CO₂-based

Christopher vom Berg, nova Institute



Biography

Christopher vom Berg has a background in biology and environmental sciences and is working for nova since 2017. He is deputy head of the policy & economy and member of the sustainability department. Christopher has been involved in various projects about regulatory and sustainability aspects for the chemical industry and on methodological aspects of CCU in life-cycle assessments (LCA). In his daily work, he is contributing to several national and European projects with focus on policy, regulation, sustainability assessment and LCA for bio-based materials, chemicals and renewable CO₂. Since 2020, Christopher strategically supports the development of the RCI.

Abstract

Many chemicals, materials (plastics) and toys are based on carbon as atomic backbone of the molecules that make up the material or toy. To a vast majority, this carbon is derived from fossil feedstocks, i.e. crude oil and natural gas. The renewable carbon concept aims to replace the fossil-based carbon with alternative and renewable carbon sources from biomass, CO₂ and recycling. The presentation will dive deeper into why toys are a particular interesting market for renewable carbon, provide an overview on existing renewable polymers and composites relevant for toys on the market and give an overview on potential customer types on the market and how to address them.



Tuesday, 07 Sep 2021 | 09:45-10:10

Climate-neutral chemistry and plastics: Study for Germany

Jörg Rothermel, VCI



Biography

- University studies in chemistry (PhD 1989)
- 1990 – 1997 working for a chemical company in different functions
- 1997 joining the German Chemical Industry association (VCI)
- 1997 – 2000 Expert for Clean air Issues and climate change policy
- 2001- 2008 Managing Director of the Sector Group Organic Chemical Industry. Expert for climate change policy, emissions trading, energy policy and raw materials policy including renewable raw materials
- Since 2009 Head of new department: Energy, Climate Protection, Raw Materials within VCI
- Since 2001 member of the board of the German Agency for renewable raw materials (FNR);
- Since 2010: Managing director of a group of energy intensive industries in Germany (EID)

Abstract

Climate protection has become a key concern for society and a dominant topic in German politics and also for the German chemical industry. If the chemical industry will be able to produce plastics and also all other products still in 2045 in Germany, production and products must be greenhouse gas neutral. The German chemical industry investigated in 2019 a possible transformation pathway in a study „Working towards a greenhouse gas neutral chemical industry in Germany“. This study describes the measures and technologies that the chemical industry needs to get greenhouse gas neutral. Key technologies are covering the total energy demand by renewable energies and to circulate the carbon in products completely by recycling, using biomass and CO₂ itself as carbon feedstock.

The key result of the study was, that the chemical industry will be able to transform to greenhouse gas neutrality but the challenges are high concerning energy demand and needed investments. The study identified a significantly growing demand of cheap renewable electricity (more than 600 TWh) for electrification of processes and the production of hydrogen which is needed for the processing of CO₂.



Tuesday, 07 Sep 2021 | 10:10-10:35

Bio-based toys - a playful introduction to the bioeconomy

Gabriele Peterek, Fachagentur Nachwachsende Rohstoffe FNR



Biography

Gabriele Peterek studied biology at the University of Ulm and the Technical University of Aachen (RWTH).

After graduating, she moved to the University of Hamburg where she worked as a doctoral student in the field of molecular genetic analysis of the rapeseed fatty acid pattern. In 1993 she passed her PhD-exam at the University of Hamburg.

Since 1994 she has been working in various positions at the FNR. First in project management, then as head of the market introduction program and since 2009 as consultant in the public relations department. There she is responsible for the topic of material use of renewable resources.

Abstract

With the National Bioeconomy Strategy, Germany aims to further expand the bioeconomy. Part of the strategy is to strengthen the dialogue with all interested groups in society.

On behalf of the German Federal Ministry for Food and Agriculture (BMEL), the Agency for Renewable Resources (FNR) informs consumers about the potential and opportunities of the bioeconomy by using toys made from renewable resources.

The FNR focuses on toys made from bio-based plastics. Consumers are approached through press work and radio reports, but also through modern social media channels. Among other things, a cooperation with bloggers who are active in the field of child rearing and toys is planned. With a small competition the FNR wants to encourage educators in kindergartens to engage with toys made from renewable resources.



Tuesday, 07 Sep 2021 | 11:20-11:45

Sustainability and toys - a logical step or a contradiction?

Patrick Zimmermann, FKUR



Biography

Patrick Zimmermann graduated from the University of Applied Science in Aachen with a diploma in Mechanical Engineering. His specialty subjects were Energy and Environmental Technology with a main focus on waste treatment and waste management of dangerous and nuclear substances. In addition, he was granted a diploma in Engineering and Economics from the University of Applied Science in Hamburg specializing in Risk Management.

In the past 16 years Patrick Zimmermann has been deeply involved in the global business development and marketing of FKUR's biodegradable and compostable product portfolio. He is also responsible for the marketing and sales of FKUR's distribution portfolio like Green PE or Bio-PET. He was responsible for the establishment of FKUR's activities in the USA as part of the global marketing strategy. Since August 2015 he is also Managing Director of FKUR Polymers GmbH, a company specialized in the development and production of Thermoplastic Elastomers as well as of tailor made Polyolefin Compounds.

Abstract

Circular economy and recyclability are widely discussed topics today. Especially recyclability has a high priority when it comes to politics and consumer acceptance. But still most plastics are made from a CO₂ one-way source like crude oil and the status quo is not really being questioned. Instead of re-thinking the actual status quo, more and more concerns are being raised about renewable raw materials.

However, it is essential to close the carbon loop and not only the material loop in order to progress towards a CO₂ neutral industry or society.

The EU agenda 2030 as well as the "Green Deal" to be carbon neutral in 2050 are already taking shape. The plastics industry needs to react and change its mindset as more and more consumers have a negative attitude towards plastics. Renewable resources and biobased materials are now moving increasingly into the awareness of end consumers. This change will have a particular impact on the toy industry. End consumers expect eco-friendly solutions, based on recycled and / or on biobased materials. In fact, reducing the amount of plastic per product is widely recognized. To keep up with this trend, bio-based and renewable materials offer interesting opportunities in terms of their properties, their CO₂ emissions and a closed carbon cycle with regard to their end-of-life scenario.

Content of the presentation:

- FKUR – plastics as passion
- 8 points to design products for a Circular Economy
- Circular Economy and its impact on the toy industry
- How to promote products from bioplastics
- Summary



Tuesday, 07 Sep 2021 | 11:45-12:10

Hasbro's Sustainability Journey: More than Toys

Rafaela Hartenstein & Ben Kuchler, Hasbro



Biographies

Rafaela Hartenstein heads up Government and Regulatory Affairs for Hasbro in Europe. In her role, she represents Hasbro towards key associations, the EU Commission and other political stakeholders in Brussels, as well as towards national governments and authorities in Europe, Middle East and North Africa. Reporting into the Head of Global Government, Regulatory Affairs and CSR, she is also the key link for CSR related topics in Europe.

Since joining Hasbro in 2001, Ms. Hartenstein has held various positions. She started in Marketing and build up Public Relations at Hasbro Germany before taking over the European lead of Government and Regulatory Affairs for Hasbro Europe in 2013.

Ben Kuchler is the Director of Product and Packaging Sustainability at Hasbro and is genuinely excited to come to work every day and have the opportunity to help shape Hasbro's future as an industry leader in sustainability. He brings a creative perspective and many years of design and development experience to his role which provides innovative thinking, alternative material solutions, and a holistic approach to reduce the environmental impacts of Hasbro's products and packaging. He is also a member of Hasbro's Sustainability Center of Excellence, where he leads the company's product and packaging sustainability initiatives. Prior to working at Hasbro, Ben was a Design Director at Reebok where he discovered his passion for working on kids' products. He has an Industrial Design degree from the University of Wisconsin-Stout.

Abstract

At Hasbro, we challenge ourselves every day to find new ways to embed sustainability throughout our business. This commitment has led us to evaluate every element of our business, from product and packaging design to manufacturing, logistics and operations.

Our initiatives are guided by our Sustainability Center of Excellence, with a focus on reducing the environmental impacts of our products and packaging, minimizing the environmental footprint of our operations and supply chain, and encouraging our employees to embrace and promote environmental responsibility.

Hasbro's sustainable packaging efforts started well over a decade ago, with early achievements to remove excess paper and replace wire ties with paper strings, to our goal to eliminate plastic packaging from all new products by the end of 2022.

Replacing plastic in our toys and games with more sustainable alternatives is a challenging task. We began our sustainable product journey in 2020 with the launch of 'Mr. Potato Head Goes Green', our favorite spud made with plant-based plastic and the release of "Monopoly Go Green", our first-ever Monopoly game created with 100% recycled and renewable materials.



Tuesday, 07 Sep 2021 | 12:10-12:35

TOY GREEN DEAL: A bio-path towards a sustainable model

Suny Martínez, AIJU



Biography

She holds a PhD in Chemistry and an MBA and is the head of AIJU's Innovative Materials and Manufacturing Department. She has extensive experience as a lead researcher in national and European R&D projects, in fields such as the development of bio-based plastic compounds, plastic surface treatments, functional bio-additives and materials for innovative toys and different consumer products. She is an expert in polymer testing and characterisation and in processes for improvements in thermoplastic products manufacturing, in both, traditional technologies and additive manufacturing. For more than 15 years he has given training courses on plastic materials, has published articles in several leading international journals and participated in numerous international conferences and scientific events related to their expertise. She is also an evaluator of Spanish R&D projects and an active member of the Standardisation Committees ISO/TC 261 and CEN 438 on Additive Manufacturing being the Secretary of the national Committee CTN 324 "Additive Manufacturing".

Abstract

The toy industry needs to undergo a transformation throughout the entire value chain in order to bring about sustainable production that generates a new growth strategy for a better world. Transformation begins by applying sustainability to the whole process: from the concept of the new toy to its final production and commercialization. New parents of Alpha generation children are demanding sustainable toys.

These toys require new design to be more recyclable, a sustainable manufacturing process, safety and certification, bio-considerations, and new sustainable European business models close to European Sustainability objectives. Finally, research and innovation with the incorporation of bio-based solutions such as bioplastics or bio-additives for final toys are highly important to close the circular value chain and be in harmony with families' and children's necessities.

This is the journey of the toy: to create a new sustainable ecosystem for the Toy Industry.



Tuesday, 07 Sep 2021 | 14:00-14:25

Luminy PLA and the breakthrough in higher heat, durable applications

François de Bie, Total Corbion



Biography

François de Bie is Senior Marketing Director at Total Corbion PLA and he supports partners and brand owners that want to capitalize on the benefits of bioplastics. François holds a Master of Science degree in polymer technology from Eindhoven University of Technology, the Netherlands.

Before joining Total Corbion PLA, François worked at EconCore, Sabic and GE Plastics where he held various positions, including business leadership, marketing and sales. Successful introductions of new business concepts, new technologies and new plastics within a range of industries such as consumer electronics, packaging, automotive and aerospace, are his key areas of expertise. With EconCore, François won the European Bioplastics Award in 2010.

In 2013, François was elected Chairman of the Board of European Bioplastics, a position he still holds today. With over 70 members from across the entire value chain, it is the largest European association representing the bioplastics industry. Furthermore, François is a founding member of the Holland Bioplastics association.

Abstract

Over the recent years Total Corbion has seen an ever stronger market demand for PLA in higher heat, durable applications. Advances in the Total Corbion PLA technology have resulted in a broad portfolio of PLA products and compounds tailored towards injection molded and thermoformed applications, where durability, heat resistance, high gloss and good impact are of critical importance. For Luminy PLA in thin wall and complex geometries, special higher flow Luminy PLA grades have been developed. These materials are biobased and are fully recyclable using mechanical/chemical recycling. For customers that want to buy Luminy PLA partly made from post consumer and post industrial PLA, we have a portfolio of products available.



Tuesday, 07 Sep 2021 | 14:25-14:50

Lignin-based thermoplastic materials for ABS products

Thomas Roulin, Lignin Industries



Biography

With a background in material engineering, Thomas Roulin joined the Lignin Industries' team from the very start with the strong ambition to contribute to reducing the use of fossil-based plastics globally. His work today consists in developing our lignin-based material RENOL® and introduce it to the market.

Abstract

Lignin Industries is a Swedish innovation company, its founders have a family history of five generations of pioneers within the Pulp and Paper Industry. This solid industrialisation background combined with devoted researchers is the base for Lignin Industries mission and conviction to use green chemistry to upcycle residual products from the forest industry to replace fossil-based plastic with sustainable and renewable solutions.

Lignin is one of the main components of wood and globally 80 million tonnes of lignin is processed in the pulping industry, making it the largest natural by-product on earth. Today, 99% of the produced lignin is burnt for its energy value. With the significant global volumes of lignin in the pulp industry, RENOL® is one of the few - if not the only, scalable green material that can pose a realistic alternative to fossil-based plastics.

Lignin Industries converts lignin into a renewable and functional biomaterial called RENOL, which is capable of replacing plastic in many different applications. For the Toys industry, RENOL has a strong role to play thanks to its high compatibility with ABS, as well as its capacity to withstand high temperatures while being processed.

Not only does RENOL decrease CO₂ emissions by 6 kgs/kg of material produced, but it also requires less water to produce than any other bioplastic or fossil-fuel-based plastics. RENOL – being built from wood – degrades like wood and results in soil and carbon dioxide at the end of its life cycle, making RENOL part of a self-reinforcing and positive cycle, a truly cyclical material in tune with mother nature.

Lignin Industries journey started in 2018, and the production are already being scaled up as a demo site have been launched close to Stockholm and are running since early 2021 with a production capacity of 2000 tonnes/year.



Tuesday, 07 Sep 2021 | 14:50-15:15

Styrenics Solutions for Toys - biobased & recycled

Eike Jahnke, INEOS Styrolution



Biography

Eike Jahnke started his professional career in 2010 as (Senior) Research Chemist at Styron Deutschland GmbH in Stade, Germany. In 2012, he became Technical Product Manager at INEOS Styrolution in Frankfurt, where he was responsible for Luran® (SAN), Luran® HH (AMSAN), NAS® (SMMA), Styroflex® (SBC) and StyLight (thermoplastic composite).

As of April 1, 2017, Jahnke transferred to INEOS Styrolution Switzerland SA in Rolle, Switzerland, assuming the role as Head of Product Management, Standard ABS, EMEA. As of June 1, 2021, Jahnke assumed the role of Vice President Specialties EMEA with responsibility for the Specialties product portfolio as well as business responsibility for all industries targeted by INEOS Styrolution.

Jahnke studied chemistry at the Freie Universität Berlin (FUB). In 2008 he received a Ph.D. at the Eidgenössische Technische Hochschule (ETH) in Zürich. He continued with a postdoc position at the University of Alberta in Edmonton, Canada. In 2009, Jahnke became Akademischer Rat at the Friedrich Alexander University Erlangen/Nürnberg, Germany.

Abstract

Styrenics polymers are all around us. They are the material of choice in a wide range of industries including the toy industry.

Styrenics based materials contribute to societal well-being. They help reducing the weight of cars resulting in reduced fuel consumption. They help to insulate our homes resulting in less energy consumption. They are widely used to protect food and help to reduce the amount of food being wasted. Styrenics based materials also contribute to a broad range of solutions in the healthcare industry, a fact that became of specific importance during the COVID-19 pandemic.

On the other hand, styrenics polymers are part of the challenge we face with increased plastics waste and related pollution.

INEOS Styrolution is committed to a fundamental shift towards a circular economy for styrenics based materials and develops respective innovations. The company has brought mechanically recycled ABS and polystyrene to market, which excels at providing the same physical parameters as the virgin material and actively progresses advanced recycling solutions together with a range of technology partners. The company also introduced bio-attributed solutions taking advantage of renewable feedstock.

In this presentation, an overview is given about existing current solutions, ongoing research as well as plans to move from lab-scale solutions to commercialized solutions. A special focus will be on solutions for the toy industry.



Tuesday, 07 Sep 2021 | 15.15-15:40

Small Initiatives with big impact, an example of European Sustainable management

Rafael Rivas, Miniland



Biography Beatrice Radaelli

Rafael Rivas is managing director of Miniland Group, a (educative) toy company with our main purpose is to accompany parents, teachers, and children on their journey of growth. Our plan is to build a better world, where each child shines with their own light.

Rafael has a Biochemistry degree from Madrid Complutense University, a bachelor in Economics and master's degree in biotechnology, Sales & Marketing, Executive MBA and DIBEX (Digital Business Executive). He has thirty years of experience working in Multinational environments (Merck, Angellini Group, Colgate/Palmolive) and Family companies (Disop, Suavinex, Miniland) and Experience in working in multitask teams in different countries (France, Italy, Brazil, China, Spain). He is actively sportive person (Black belt 3^o dan of Judo, rugby, and trekking) and supporter of Atlético de Madrid and All Blacks

Abstract

All Companies are talking about Sustainable Development Goals (SDG) or Corporate Social Responsibility (CSR). It sounds something too big for a small Company, but we want to show some exemplary practices on how to move these principles into action. We believe on the big impact that many Companies like us can make for the necessary transformation of the global economic system to benefit all people, communities and planet.



Tuesday, 07 Sep 2021 | 16:35-17:00

Mattel's vision and portfolio of sustainable toys

Jason Kroskrity, Mattel



Biography

Jason has served in various leadership roles within chemistry and materials R&D functions at Mattel over his 23-year tenure. Since 2018, Jason has also been deeply involved in Mattel's sustainability journey. In his currently role as Director of Sustainable Development, Chemistry & Materials, Jason heads a team responsible for evaluating and creating new material and chemistry technologies and developing the tools to help enable their adoption.

Abstract

Mattel's aim is to have a positive influence on the world and to advance our purpose: to empower the next generation to explore the wonder of childhood and reach their full potential.

Specific to the materials we use, in 2019 Mattel announced its goal to achieve 100% recycled, recyclable, or bio-based plastic materials in all products and packaging by 2030.

This presentation will highlight where Mattel is on their sustainability journey, including discussion of the scope of sustainability at Mattel. In addition, we will look at some of Mattel's recent product offerings featuring bio-based and recycled materials and use that as a vehicle to discuss the challenges and opportunities associated with using more sustainable materials and how we preserve their embodied resources.



Tuesday, 07 Sep 2021 | 17:00-17:25

Neste's renewable and circular approach: Keeping plastics in play sustainably

Elisabet Sjölund, Neste



Biography Beatrice Radaelli

Elisabet Sjölund is part of Neste's Renewable Polymer & Chemicals with focus on supporting brand owners with more sustainable solutions for plastics and chemicals.

Elisabet has a background from 15 years of global work in the field of materials and chemicals; with strategy and management consulting, innovation, business development, consumer insight, and brand and product management.

During her spare time, she enjoys running trails in the forest, dipping in - and paddling on - the sea, and creating children's books by her kitchen table. While figuring out what to become when she grows up, Elisabet makes sure to try to learn and have fun on the journey.

Elisabet Sjölund holds a Master of Science degree in Chemical Engineering with materials focus from Chalmers University of Technology, as well as studies in Culture & Communication, Technical communication and Applied ethnography. Originally from Sweden, she spent a couple of years in Asia before joining Neste RPC with its hub office in Germany.

Abstract

In my presentation, I will describe Neste's renewable and circular solutions for plastics and chemicals and how these can play a role in toy applications - keeping safety, quality and sustainability at play. I will showcase how, by collaborating in the circular supply chain, we can support the transition towards a circular bioeconomy and contribute to a healthier planet.



Tuesday, 07 Sep 2021 | 18:00-21:00

Dinner & Social Evening

bioplastics MAGAZINE, the first and only international magazine dedicated to bioplastics and Harald Kaeb (narocon) cordially invite all bio!TOY conference delegates to a beer, wine or soft drink in the Arvena Park Hotel*.

Right after the last presentation on **Wednesday Sept. 7th** we'll have a beer in the Foyer*, to give us one more opportunity to network



At 19:30 hrs we'll then enjoy a good meal and beverages in the restaurant* of the Arvena Park Hotel.

The dinner will be in a buffet style.

The staff of bioplastics MAGAZINE and Harald Kaeb are looking forward to a wonderful evening.

* The exact location will be announced during the conference.



Wednesday, 08 Sep 2021 | 09:00-09:25

The LEGO Group's vision and achievements for sustainable toys

René Mikkelsen, Lego



Biography

René Mikkelsen is Sr. Materials Platform Manager, R&D, within the Materials department at LEGO Systems A/S. In this role he is focused on exploring and driving forward new opportunities in the field of sustainable materials that will contribute to the overall ambitious sustainability goals put forward by the LEGO Group.

Prior to joining LEGO Systems A/S he worked for 10 years within industrial biotechnology in the field of biopolymer processing and modification at Danisco A/S/Genencor/Dupont Industrial Biosciences. He holds a Ph.D. in biochemistry from Copenhagen University.

Abstract

At the LEGO Group, we're playing our part in building a sustainable future and creating a better, brighter world for our children to inherit. We are committed to making our products more sustainable and we have set ourselves an ambition to achieve this by 2030. For the company, a sustainable material must be responsibly produced, using renewable or recycled resources, generating little or no waste, use sustainable chemistry and be fully recyclable at the end of its life. We are joining forces with suppliers, research institutions and other industries to develop these new materials for LEGO® bricks of the future.

In 2018, we started making a range of sustainable LEGO elements from sugarcane to create polyethylene, a soft, durable and flexible plastic. In June 2021 we announced our first ever recycled plastic LEGO brick prototype. The new prototype, which uses PET plastic from discarded drinks bottles, is the first brick made from a recycled material to meet the company's quality and safety requirements.



Wednesday, 08 Sep 2021 | 09:25-09:50

A material suitable for toy manufacturing based on direct bio-based and recycled content

Pascal Lakeman, Trinseo



Biography

Pascal Lakeman has over 20 years experience in the chemical industry, having joined Dow in the year 2000 where he held various R&D roles. In 2010 when Trinseo (originally Styron) was spun off Dow, he continued with the newly-formed company in the R&D department as Lead Scientist Engineering Plastics. Since then he held various other roles and today Pascal is Trinseo's Global R&D Director for Plastics and Engineered Materials and is based in Terneuzen, the Netherlands.

Abstract

Trinseo developed a technology of sustainable polymers especially suitable for high end consumer goods such as the toys industry. This bio-based technology is also made with chemically recycled feedstocks and it is designed for optimal recyclability at the end of its life.



Wednesday, 08 Sep 2021 | 09:50-10:15

A plastic-free toystore is possible...
what will it look like in 10 years' time?

Sharon Keilthy, Jiminy Eco Toys



Biography

In 2018, Sharon couldn't find herself walking out of toystores empty-handed. She couldn't buy the petro-plastic, wrapped in more plastic, shipped all the way from China, for her daughter anymore. Spurred by the IPCC Report on Climate Change, she decided to be part of the change she wanted to see - and to work on making toys sustainable. She set-up a plastic-free toystore in her hometown of Dublin, Ireland - which now retails and wholesales about 500 sustainable toys - including over 50 made from bioplastic. Before that, she graduated top of her class in Engineering, worked in China for a year, started her first business aged 22, and worked for 13 years at global management consultancy McKinsey & Co.

Abstract

Running a plastic-free toystore is not super easy, but it is possible! Jiminy Eco Toys stocks over 500 toys made from natural or recycled materials - and 50 of them are bioplastic. Jiminy pioneered bioplastic in Ireland and has seen the idea spread to other retailers.

But questions remain about it:

- Bioplastic could solve the toy industry's carbon footprint problem - but is there enough agri-waste in the world to feed 40 million tonnes of injection-molding?
- Is bio more sustainable than recycled plastic bottles?
- Why did LEGO choose recycled rather than bio? What % of toys have a functional bioplastic available?
- Why are environmentalists worried about sugarcane production?
- Customers are confused. "Is this toy compostable?" "Bioplastic is not recyclable." "Bioplastic competes with food sources." How to de-confuse them?
- Why are big toy producers introducing bioplastic as a distinct "eco" line, rather than switching established lines over?
- At what point of scale, and what level of petroleum price increases, will bioplastic become the cheaper option for toys?

In her talk, Sharon will share her experience setting-up an eco toystore, and her perspective on the future of bioplastic in sustainable toys.



Wednesday, 08 Sep 2021 | 10:15-10:40

Raw material shift in the plastics industry – Children's toys made from tailormade blends

Michael Schweizer, Tecnarö



Biography

10/1987 – 05/1998 Chemistry studies, University of Stuttgart,
Graduation: PhD

06/1998 – 03/2012 Scientific staff, German Institutes of Textile
and Fiber Research Denkendorf

Since 04/2012 Project Manager Research & Development,
TECNARO GmbH

Since 01/2020 Head of Research & Development, TECNARO
GmbH

Abstract

In this presentation recent applications of TECNARÖs materials in the field of toys are introduced. The TECNARÖ GmbH is an innovative company that develops and produces its own biocomposites based on renewable raw materials and markets them worldwide. TECNARÖ is one of the leading technology companies with its thermoplastic biomaterials. The wealth of challenges posed by the large number of customer enquiries have in the meantime led to more than 5,000 material formulas and hundreds of series products made from the ARBOFORM®, ARBOFILL® and ARBOBLEND® materials. Customized solutions have been successfully completed for industrial series production in the three biomaterial families for years. With customers from the automotive, construction, packaging, toys and household items, the materials from TECNARÖ serve practically every market. The materials can be processed, for example, by injection molding and extrusion. Users are therefore manufacturers of molded parts, sheets and semi-finished products from the wood and plastics processing industry



Wednesday, 08 Sep 2021 | 11:20-11:45

dantoy – Delivering bio-based toys for children in a first-mover initiative

Marck Højbjerg Matthiasen, Dantoy



Biography

Marck Højbjerg Matthiasen holds a MSc in Business Administration and Auditing. Marck is now owner and CEO of Dantoy A/S.

Abstract

Marck Matthiasen will share Dantoy's experiences as first mover on bio-based toys for children. He will talk about the journey's different steps and challenges. Furthermore, Marck will talk about how Dantoy started its work with bio-based plastic and also other environmentally friendly initiatives.



Wednesday, 08 Sep 2021 | 11:45-12:10

Biobased material alternatives for Toys

Marko Manu, Arctic Biomaterials



Biography

Head of Sales and Marketing at Arctic Biomaterials Ltd, PhD (Industrial Management) and BSc (Mechanical Engineering). Before joining Arctic Biomaterials Ltd Marko Manu has been working on plastic industry in several Manager and Director roles in sales and development over the past years, starting from Injection Moulding Company Perlos Ltd to Amcor Flexibles and Pyroll Ltd in flexible packaging business. Among these roles Manu continues his studies at Tampere University at Faculty of Business and Management focusing on knowledge management and added value.

With versatile experience working in different types of organizations together with global brands as well as smaller customers and other stakeholders Manu has successfully created added value by recognizing demands in markets and finding right solutions with strong cross-border-operation with all players in value chain.

Abstract

Fossil-based materials are to find new alternatives more and more as the need for decrease carbon footprint and overall find more sustainable materials are in every organization's agenda. Therefore need and demand for bio-based and less environmental stressful material are increasing. Sustainability is now really one of the megatrends which is a driving development projects in organizations and have really effect on all possible levels from individuals to governments and local to global levels. Re-use, decrease and recycle are the magic words for organization's to obey when developing their products and materials. Overall sustainability and decrease actions of carbon footprint are in focus and only co-operation with material suppliers, designers and other stakeholders are key drivers for organization's able to follow the command.

Toys are traditionally made to last long –in some cases from father to son- therefore special challenge is to find solutions which are able to provide alternative for the traditional fossil-based materials as the requirements from mechanical and design-perspectives are challenging not mentioned the demands from end-use and user environment toys are facing. But as the challenges are made to meet the solutions with co-operation and long-term commitment with customers and material suppliers also enables that outstanding solutions are created. In this presentation focus is to go through the most challenging demands what material development meets from Toy-industry, how these challenges are placed as an input at Arctic Biomaterials Ltd in development projects and how step by step these challenges are solved and finally present some outstanding solutions for toys to meet the demand for more sustainable material solutions.



Wednesday, 08 Sep 2021 | 12:10-12:35

New Plasticizers based on alternative raw materials

Herbert Morgenstern, BASF



Biography

Herbert Morgenstern received a diploma in Mechanical Engineering in 1986 at the TU Kaiserslautern and joined BASF SE in Ludwigshafen in the same year. He started in the central processing labs for thermoplastics and joined the technical service group for flat film and sheets of polystyrene and styrenic copolymers in 1999.

From 2005 to 2007, he worked in a sales team dedicated to technical service for the European appliance industry.

Since September 2007 he has been technical marketing manager for plasticizers in the European market and represents BASF SE in the technical working group of the FEB (Fachverband der Hersteller elastischer Bodenbeläge e.V.).

Abstract

BASF's Biomass Balance approach contributes to the use of renewable raw materials by inducing resources derived from organic waste or vegetable oils as feedstock at the very beginning of the integrated production network (Verbund). The certified products thus contribute to sustainable development by reducing greenhouse gas emissions and saving fossil resources.

They carry the name suffix "BMB".

ChemCycling™ is the name of a chemical recycling project launched by BASF with the aim to manufacture products from chemically recycled plastic waste on an industrial scale. BASF cooperates with technology partners, who transform plastic waste into pyrolysis oil. This oil is fed into BASF's Verbund, thereby saving fossil resources and contributing to plastic waste recycling.

In both cases, Biomass Balance and ChemCycling, alternative raw materials are allocated by a mass balance approach to the resulting products, which have the exact same properties as those derived from fossil feedstock. Our customers can therefore further process them in the same way as conventionally manufactured products and use them in demanding applications.



Wednesday, 08 Sep 2021 | 14:00-14:25

Toys from sustainable materials

Caroline Kjellme, Viking Toys



Biography

Caroline Kjellme, the oldest daughter of the Viking Toys founder Gösta Kjellme. Caroline is today running Viking Toys together with her two sisters Maggie and Josephine. Caroline has worked with Viking Toys for six years. She has a financial background working in larger companies before heading back to Viking Toys. Caroline drives to make Viking Toys a sustainable player in the toy business.

Abstract

Viking Toys is the small toy company with the big heart. A family business from Sweden founded in 1974. Viking Toys' sustainable, quality toys have always been the antidote to the prevailing throwaway culture. In 2018 we were finally ready to produce a line in biobased material, from sugar cane.

Since we are making toys for our next generation it is the outmost highest priority always to leave as low carbon footprint as possible. Since we are sure the next generation wouldn't want their world to be any bit compromised from their toys they were playing with as children.

There are challenges with bioplastics and circular manufacturing. There is also the exploration of other alternatives such as other bioplastics and recycled plastics. The question is always which one is better and most important why one is better than the other.

The goal is to in the future have the entire production in bio-based plastics or alternative materials. We are hopeful that we will be able to reach our goal to make a complete sustainable toy production and have a circular business.



Wednesday, 08 Sep 2021 | 14:25-14:50

PHA materials design and application development for IM and AM

Ruud Rouleaux, Helian ColorFabb



Biography

Ruud Rouleaux, 46 years old, living in Venlo, The Netherlands and father of 3 young sons.

He holds a BSc in plastics engineering and has fulfilled several roles in the polymer industry for the last 23 years.

Currently as owner and CEO of both ColorFabb and Helian Polymers, his main focus areas are materials design and application development for both 3D Printing materials and Biopolymers.

Since 2007 he has been working with Tianan Biopolymers from Ningbo China and has successfully

launched several PHA based material innovations in FFF 3D Printing and Injection Molding.

Abstract

The last few years a variety of PHA producers and brand-owners have successfully developed and launched commercially available PHA building blocks with a broad variety mechanical and thermal properties.

This allows new blends and compounded formulations of PHA that resemble classical petrochemical polymers.

However, material design iterations can in some cases be quite time consuming and inefficient before a

successful formulations can be rolled out.

In order to speed up this process colorFabb has started a cooperation with the University of Niederrhein

developing a Machine Learning AI model to map the correlations of various PHA blends.

Over the last 18 months we have tested over 70 formulations are now scaling up from lab scale to pilot scale,

focusing on producing and scaling up new PHA formulations specifically for 3D Printing (AM) and Injection Molding (IM).



Wednesday, 08 Sep 2021 | 14:50-15:15

PLA faux fur for plush toys

Keiko Matsumoto, Miyama



Biography

Keiko Matsumoto is a founder at Comfoam Germany GmbH where develop and sale an original cleaning products since 2003, and also consulting the business between Japan and EU in consumer products even before Keiko moved to Frankfurt from Osaka Japan.

Keiko was called by the group of Japanese companies for the project "PLA fiber for everyone" as a marketing consultant of Europe in 2018.

PLA fiber is a promising material for the future, therefore the correct information has to be provided to the public.

Keiko is joining the remote meeting of this project group regularly and will have made debut of the project of PLA fiber in Bio Toy Messe in 2021.

Abstract

An exciting new beginning for synthetic fibers is heralded by Miyama Co., Ltd' PLA staple fiber. 100 % plant based, biodegradable and carbon neutral. It paves the way for a new, much more eco-friendly range of fabrics.

Due to its low strength and flexibility, PLA staple fiber is very difficult to spin into clothing textiles. And also it has been challenging with PLA staple fiber is its low resistance to the heat needed to complete the dyeing process. To over come these problems Miyama has worked with Bioworks.

The additive to modifies PLA was invented by Bioworks which ensures that PLA is resistant to High temperatures while also increasing its durability.

Original PLA's heat resistance temperature is 50°C. With the additive invented Bioworks, PLA is able to resist 140°C. Therefore the PLA staple fiber with the additive from Bioworks could dye in 110°C. And also possible to wash with 90°C in washing machine.

Miyama has also collaborated with textile factories to create fabric samples. Its PLA staple fiber can be blended with many different types of fibers and fabrics such as cotton, silk, wool, linen, polyester, polypropylene nylon acrylic and Tencel. This gives the opportunity to create high- functioning fabrics that make the most of each material in the blend, while also having reduced carbon impact.

Comparing Polyester with PLA, we can expect 43 % reduction of carbon emissions. Fleece and faux fur fabrics are often made from 100% fossil-resource fibers.

Now Miyama made samples which were reduced 20-50 % carbon with blending PLA staple fibers.



Wednesday, 08 Sep 2021 | 15.15-15:40

The (im)possibilities of bioplastic in the world of baby products

Beatrice Radaelli, eKoala



Biography

Dr. Beatrice Radaelli studied Foreign Languages for International Communication at Università degli Studi di Bergamo (Italy). After the degree in 2007, she joined the just founded AMACI – Association of Italian Contemporary Art Museum. Here she was the person in charge of coordinating the relationships between public administrations, museums and press and of public relations and event managing.

After 3 years she took her father's role in the family company dealing with manufacturing of traditional plastic items.

In 2014 she founded, together with her brother Daniele, eKoala, the first Italian company dealing with BIOplastic kid products.

Abstract

Founded in 2014 eKoala brought its first 100% bioplastic line of kids' products on the market in 2016. Starting a business using only biomaterials is anything but easy.

After all the difficulties in obtaining a nice product, it was time to face the market. Being small in a world of giant is very hard. The lack of knowledge about what BIOplastic is makes everything more difficult.

Even though everyone say consumers are more and more aware of sustainability and make more and more conscious choices when choosing for their kids, numbers are still low. Moreover, the cost and the limits of the material not always make the products appealing as traditional plastic ones.

Anyway, something is changing. EU law against some competing materials, EU regulation prohibiting single-use plastic items, a growing consciousness in consumers and many campaigns by associations and organizations against plastic are bringing more and more attention to alternative and environmentally friendly materials.

Will all this be enough to open a way for companies like eKoala? How long will small companies like eKoala have to hold on before their products take off? Will BIOplastic really win on plastic?



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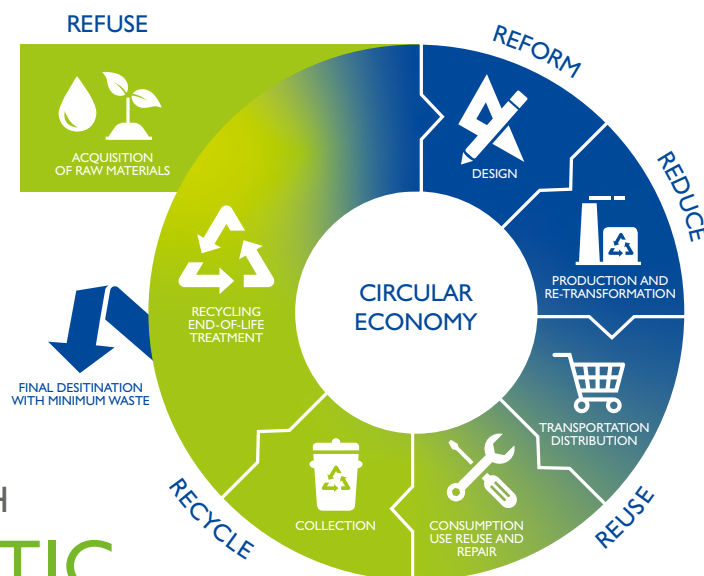
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Conference on Biobased Packaging
03 - 04 Nov 2021 - Düsseldorf, Germany

Most packaging is only used for a short period and therefore give rise to large quantities of waste. Accordingly, it is vital to make sure that packaging fits into nature's eco-systems and therefore use the most suitable renewable carbon materials and implement the best 'end-of-life' solutions.

That's why bioplastics MAGAZINE (in cooperation with Green Serendipity) is now organizing the 4th edition of the **bio!PAC** - conference on packaging made from renewable carbon plastics, i.e. from renewable resources. Experts from all areas of renewable carbon plastics and circular packaging will present their latest developments. The conference will also cover discussions like end-of-life options, consumer behaviour issues, availability of agricultural land for material use versus food and feed etc.

The full 2-day conference is planned to be held on 03-04 Nov 2021 in Düsseldorf, Germany (Maritim Airport Hotel).

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PHA (Poly-Hydroxy-Alkanoates or polyhydroxy fatty acids) is a family of biobased polyesters. As in many mammals, including humans, that hold energy reserves in the form of body fat there are also bacteria that hold intracellular reserves of polyhydroxy alkanoates. Here the micro-organisms store a particularly high level of energy reserves (up to 80% of their own body weight) for when their sources of nutrition become scarce. Examples for such Polyhydroxyalkanoates are PHB, PHV, PHBV, PHBH and many more. That's why we speak about the PHA platform.

This PHA-platform is made up of a large variety of bioplastics raw materials made from many different renewable resources. Depending on the type of PHA, they can be used for applications in films and rigid packaging, biomedical applications, automotive, consumer electronics, appliances, toys, glues, adhesives, paints, coatings, fibers for woven and non-woven and PHA products inks. So PHAs cover a broad range of properties and applications.

That's why bioplastics MAGAZINE and Jan Ravenstijn are now organizing the 2nd PHA-platform World Congress on 22-23 Sep 2021 (new date) in Cologne / Germany. This congress continues the great success of the 1st PHA platform World Congress and the PHA-day at the Bioplastics Business Breakfast @ K 2019. We will again offer a special "Basics"-Workshop in the day before (Sep 21) - if there are sufficient registrations...

The congress will address the progress, challenges and market opportunities for the formation of this new polymer platform in the world. Every step in the value chain will be addressed. Raw materials, polymer manufacturing, compounding, polymer processing, applications, opportunities and end-of-life options will be discussed by parties active in each of these areas. Progress in underlying technology challenges will also be addressed.

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2nd PHA platform World Congress (Hybrid event) ★

by **bioplastics MAGAZINE**

22.09. - 23.09.2021 - Cologne, Germany

www.pha-world-congress.com

Plastics are future (Hybrid event)

06.10. - 07.10.2021 - Paterna (Valencia)

<https://www.plasticsarefuture.com>

China International Biodegradable Material Exhibition

18.10. - 20.10.2021 - Shanghai, China

<https://www.expocncic.com>

bio!PAC (Hybrid event) ★

by **bioplastics MAGAZINE**

03.11. - 04.11.2021 - Düsseldorf, Germany

www.bio-pac.info

The Greener Manufacturing Show ★

10.11. - 11.11.2021 - Cologne, Germany

<https://www.greener-manufacturing.com>

15th European Bioplastics Conference ★

30.11. - 01.12.2021 - Berlin, Germany

<https://www.european-bioplastics.org/events/eubp-conference>

8th European Biopolymer Summit

03.02. - 04.02.2022 - London, UK

<https://www.wplgroup.com/aci/event/european-biopolymer-summit>

Plastic beyond Petroleum 2022

28.06. - 30.06.2022 - New York City Area, USA

<https://www.innoplásticosolutions.com>

Subject to changes.

For up to date event-info visit <https://www.bioplasticsmagazine.com/en/event-calendar/>

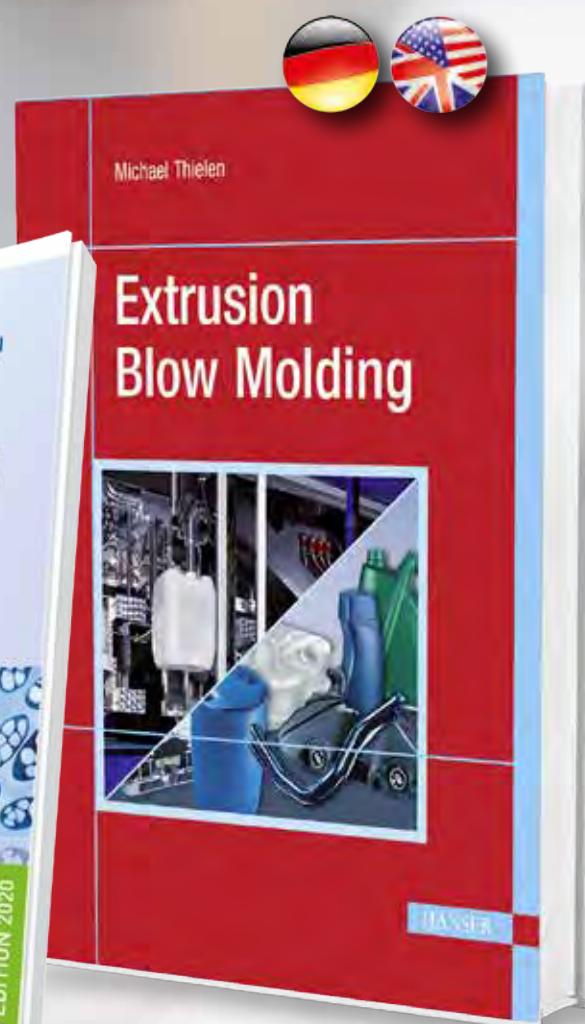


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